

REMARKS

Applicants request favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

Claims 9, 10, 16, 19, 21-25 and 32-44 are presented for consideration. Claims 16, 22, 32 and 39 are independent. Claims 17 and 26-31 have been canceled without prejudice or disclaimer. Claim 16 has been amended to clarify features of the subject invention, while claims 39-44 have been added to recite additional features of the subject invention. Support for these changes and these claims can be found in the original disclosure, as filed. Accordingly, no new matter has been added.

Applicants note with appreciation that claims 22, 23, 25 and 32-38 were allowed over the art of record and that claims 17 and 21 were indicated as containing allowable subject matter and would be allowable if rewritten in independent form. To expedite allowance of this application, Applicants have amended independent claim 16 to substantively incorporate the features previously recited in allowable dependent claim 17. Applicants submit, therefore, that independent claim 16, as well as claims 9, 10, 19, 21, and 24 depending therefrom, also should be deemed allowable at the outset. In addition, Applicants have rewritten previously allowable claim 21 in independent form as new independent claim 39. Applicants further submit, therefore, that independent claim 39, as well as claims 40-44 depending therefrom, likewise should be deemed allowable at the outset. In addition, Applicants further submit that all pending claims, namely, claims 9, 10, 16, 19, 21-25 and 32-44 should be deemed allowable at the outset, so that the instant application should be in condition for allowance.

Applicants request favorable reconsideration and withdrawal of the rejections set forth in the above-noted Office Action.

Claims 9, 10, 16, 19 and 26-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Prior Art of FIG. 8 of the present application in view of U.S. Patent Application Publication No. 2003/0056815 to Sakai. Claims 24 and 31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Prior Art of FIG. 8 of the present application in view of the Sakai publication as applied to claims 16 and 19 above, and further in view of U.S. Patent Application Publication No. 2002/0015139 to Hara. Applicants submit that the cited art, whether taken individually or in combination, does not teach or suggest many features of the present invention, as previously recited in these claims. Therefore, these rejections are respectfully traversed. Nevertheless, and for the reasons discussed above, Applicants submit that independent claims 16, 22, 32 and 39, for example, as presented, amplify the distinctions between the present invention and the cited art.

In one aspect of the present invention, independent claim 16 recites a stage apparatus that includes a base plate, a moving unit movable along a surface of the base plate, a linear motor which drives the moving unit and includes a coil unit in the moving unit, a gas bearing unit which supports the moving unit on the base plate, and a cooling unit which includes a cooling pipe provided in the moving unit through which a coolant flows to cool the coil unit in which the cooling unit is disposed between the coil unit and a substrate mounted on the moving unit, and in which (i) the cooling pipe provides coolant flow that cools a gas used by the gas bearing unit, (ii) the gas bearing unit has a supply pipe through which the gas flows, (iii) the supply pipe is not connected to the cooling pipe, and (iv) at least a portion of the supply pipe is disposed adjacent to or is surrounded by the cooling pipe.

In another aspect of the present invention, independent claim 22 recites a stage apparatus that includes a base plate, a first moving unit movable along a surface of the base plate, a linear motor which drives the first moving unit and includes a coil unit in the first moving unit, a second moving unit disposed above the first moving unit, which moves with respect to the first moving unit, and a cooling unit including a cooling pipe disposed between the first and second moving units, in which a coolant flow through the cooling pipe absorbs a heat transmission from the coil unit to the second moving unit.

In a further aspect of the present invention, independent claim 32 recites a stage apparatus that includes a base plate, a moving unit movable along a surface of the base plate, a linear motor which drives the moving unit and includes a coil unit in the moving unit, a gas bearing unit which supports the moving unit on the base plate, and a cooling unit which includes a cooling pipe provided in the moving unit through which a coolant flows, in which (i) the gas bearing unit has a supply pipe through which a gas flows, (ii) the cooling unit is provided between the coil unit and the supply pipe, and (iii) at least a portion of the supply pipe is disposed adjacent to or surrounded by the cooling pipe.

In still another aspect of the present invention, independent claim 39 recites a stage apparatus that includes a base plate, a moving unit movable along a surface of the base plate, a linear motor which drives the moving unit and includes a coil unit in the moving unit, a gas bearing unit which supports the moving unit on the base plate, and a cooling unit which includes a cooling pipe provided in the moving unit through which a coolant flows to cool the coil unit, in which (i) the cooling pipe provides coolant flow that cools a gas used by the gas bearing unit, (ii) the gas bearing unit has a supply pipe through which the gas flows, (iii) the supply pipe is not connected to the cooling pipe, (iv) at least a portion of the supply pipe is disposed adjacent to or

is surrounded by the cooling pipe, and (v) in which the moving unit comprises a fine-motion actuator which moves a substrate mounted on the moving unit, and the cooling pipe is disposed between the coil unit and the fine-motion actuator.

For the reasons noted by the Examiner and as discussed above, Applicants submit that the cited art, whether taken individually or in combination, does not teach or suggest such features of Applicants' present invention, as recited in independent claims 16, 22, 32 and 39.

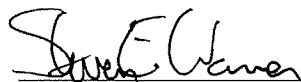
Accordingly, Applicants further submit that the present invention, as recited in independent claims 16, 22, 32 and 39, is patentably defined over the cited art, whether that art is taken individually or in combination.

Dependent claims 9, 10, 19, 21-25 and 32-44 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in their respective independent claims. Further individual consideration of these dependent claims is requested.

Applicants submit that the instant application is in condition for allowance. Applicants also request favorable reconsideration, withdrawal of the rejections set forth in the above-noted Office Action and an early Notice of Allowance.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Steven E. Warner", is written over a horizontal line.

Attorney for Applicants
Steven E. Warner
Registration No. 33,326

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3800
Facsimile: (212) 218-2200
SEW/cab

FCHS_WS 1959870_1